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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,044	01/09/2002	Y. C. Lim	FS00-001	1978
28112	7590	07/13/2005	EXAMINER	
GEORGE O. SAILE & ASSOCIATES 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			DO, CHAT C	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,044	LIM, Y. C.	
	Examiner Chat C. Do	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05/12/05; 4/25/05; 02/22/05.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 22 February 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/25/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

1. This communication is responsive to Amendment filed 02/22/2005 and 05/12/2005.
2. Claims 1-6 are pending in this application. Claims 1 and 4 are independent claims. This Office Action is made final.

Claim Objections

3. Claim 3 is objected to because of the following informalities:

Re claim 3, the applicant is advised to add a period (.) at the end of this claim for completing.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, the limitation “electrical signals are enhanced, attenuated, or kept the same” is unclear in lines 7-8 whether the electrical signals having those characteristics are the signal entering the cascaded filters or exiting the cascaded filters. For

examination purposes, the examiner considers the limitation “electrical signals are enhanced, attenuated, or kept the same” as the filter electrical signals after passing through the cascaded filters. Claim 4 has the same rejection.

Thus, claims 2-3 and 5-6 are also rejected for being dependent on the rejected based claims 1 and 4 respectively.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Tan et al. (U.S. 6,233,594).

Re claim 1, Tan et al. disclose in Figure 4 a multichannel digital filter bank (110) implemented by cascading sub-filters (e.g. 122) of the recursive type (feedback as seen in 122 with delay z^{-1}) suitable for graphically equalizing electrical signals received via a communication path having minimal distortion of signal spectral characteristics including magnitude and phase (col. 2 lines 1-15) nor does this method introduce additional delay to the signal comprising: a plurality of first order (e.g. 122, 124 in Figure 4) or second order digital filters, connected in a cascade fashion (e.g. 122 and 124 one after another)

whereby electrical signals are enhanced, attenuated or kept the same (e.g. signal coming out from filter 124 in Figure 4 wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal).

Re claim 4, it is a method of claim 1. Thus, claim 4 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

8. Claims 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dyer (U.S. 4,947,360).

Re claim 2, Dyer discloses in Figures 1-2 a multichannel digital filter bank implemented by cascading sub-filters (e.g. 1 and 3) of the recursive type suitable (e.g. in 1 with feedback signal) for graphically equalizing electrical signals received via a communication path having minimal distortion of signal spectral characteristics including magnitude and phase (col. 1 lines 35-50) nor does this method introduce additional delay to the signal comprising: a plurality of first order (e.g. 1 and 3) or second order digital filters, connected in a cascade fashion (e.g. filter 1 is after filter 3) whereby electrical signals are enhanced, attenuated or kept the same (e.g. Figure 3 wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal) wherein the transfer function is $H(z) = \{1-az^{-1}\}/\{1-bz^{-1}\}$ (e.g. B(z) equation in col. 2 line 29 wherein $b = K_3$ and $a = -(K_2K_4-K_3)$) ; wherein $|a|$ and $|b|$ are less than 1 (e.g. all values of coefficients are cited in Table 1 in col. 4 less than 1) and same sign.

Re claim 5, it is a method of claim 2. Thus, claim 5 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

9. Claims 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Cox et al. (U.S. 5,353,346).

Re claim 3, Cox et al. disclose in Figure 2 a multichannel digital filter bank implemented by cascading sub-filters (e.g. 14H and 24H) of the recursive type suitable for graphically equalizing electrical signals received via a communication path having minimal distortion of signal spectral characteristics including magnitude and phase nor does this method introduce additional delay to the signal comprising: a plurality of first order or second order digital filters (e.g. equation 50 in col. 3), connected in a cascade fashion (e.g. 14H and 24H) whereby electrical signals are enhanced, attenuated or kept the same (e.g. wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal) wherein the transfer function is $H(z) = \{1-2g\cos(p)z^{-1}+g^2z^2\}/\{1-2r\cos(p)z^{-1}+r^2z^2\}$ (e.g. H(z) in col. 3 line 50 wherein g = 1; r = beta; p = $2\pi f_{est}T$ as seen in col. 6 line 10).

Re claim 6, it is a method of claim 3. Thus, claim 6 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Response to Arguments

10. Applicant's arguments filed 02/22/2005 and 05/12/2005 have been fully considered but they are not persuasive.

a. The applicant argues in pages 8-9 for claims 1 and 4 that the cited reference by Tan et al. fails to disclose the feature of filtering without additional delay to the inbound

signal and the current invention does not require multiple sampling frequencies as utilized in the cited prior art.

In response to applicant's arguments, the recitation in lines 1-5 in claims 1 and 4 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., number of time of sampling frequencies) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

- b. The applicant argues in pages 9-10 for claims 2 and 5 that the cited reference by Dyer fails to disclose or indicated no additional delay to the inbound signal as cited in the claimed invention.

In response to applicant's arguments, the recitation in lines 1-5 in claims 2 and 5 has not been given patentable weight because the recitation occurs in the

preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

- c. The applicant argues in pages 10-11 for claims 3 and 6 that the cited reference by Cox fails to disclose or teach no additional delay to the inbound signal as cited in the claimed invention.

In response to applicant's arguments, the recitation in lines 1-5 in claims 3 and 6 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- d. U.S. Patent No. 6,321,246 to Page et al. disclose a linear phase FIR Sinc filter with multiplexing.
- e. U.S. Patent No. 4,653,016 to Mueller discloses digital filters for remote control receivers.
- f. Non-Patent Literature to Saeed Vaseghi et al. disclose digital filters.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

July 4, 2005

Xonan - un
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